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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/582,634

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Armin Lohrengel

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EXAMINER

CAILLOUET, CHRISTOPHER C

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/582,634	Applicant(s) LOHRENGEL ET AL.	
	Examiner CHRISTOPHER C. CAILLOUET	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-37 and 39-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-37 and 39-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/12/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Amendment filed on May 19, 2009 has been entered. Claim 38 was cancelled and claim 55 was added. Claims 39-54 were amended.

Election/Restrictions

2. The Amendment filed on May 19, 2009 has rendered the previous Restriction mailed on April 29, 2009 moot and therefore said Restriction is now withdrawn.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 28-31 and 55 are rejected under 35 U.S.C. 102(b) as being anticipated by Wierzba et al. (US 3728191).

As to claims 28 and 55, Wierzba et al. (Wierzba) discloses a method and apparatus for applying a flat discrete pieces to a web of disposable diaper stock (26) (Abstract; Fig. 4). Wierzba discloses that a web of adhesive tape (32) is transported and disposed onto an anvil roller (42) which works with a cutting roller (44) to cut transport discrete adhesive tape portions for lamination onto the disposable diaper stock (26) (Fig. 4; column 4, lines 24-65). The drive train (30) the anvil roller is coupled to the feeding mechanism (28) of the diaper stock (26) in order to match the velocities of each and apply the tape portions to the web (26) (column 3, lines 30-57). Wierzba discloses that the rotational velocity of the pull rollers (38, 40) determine the length of tape cut

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from the web (column 4, lines 46-57). Since the length of tape placed on diaper stock web (26) is shorter than that of the diaper section itself, it is inherent that the web adhesive tape is moving at a speed slower than that of the diaper stock web (26).

Wierzba further discloses that the surface section of the anvil roller that grasps and transports the adhesive strips is substantially flat (column 5, lines 27-35), which falls into the claimed limitations of the anvil roll curvature being less than that of the peripheral curvature of said anvil roller.

As to claim 29, the method of claim 28 is taught as seen above. It is inherent that the radius of curvature of the substantially flat surface (70) that grabs the tape strips is larger than the curvature of the periphery of the anvil/transport roller (42) (Fig. 4).

As to claim 30, the method of claim 28 is taught as seen above. As stated in the rejection above, Wierzba discloses that the speed of the transport roller (42) matches that of the diaper web stock.

As to claim 31, the method of claim 28 is taught as seen above. Wierzba discloses that the transport/anvil roller may have vacuum suction (column 4, lines 57-65).

As to claim 35, the method of claim 28 is taught as seen above. Wierzba discloses that a pressure roller (60) on the opposite side of the diaper webstock (26) than that of the anvil/transport roller (42) aids in the application of adhesive strips to said webstock (Fig. 4).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 28-35, 39-51 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rajala et al. (US 6319347) in view of Wierzba et al. (US 3728191).

As to claims 28 and 55, Rajala et al. (Rajala) discloses a method and apparatus for applying discrete articles from a first web moving at a first speed to a second web moving at a second speed (Abstract; Fig. 5; column 1, lines 10-16). A first web of material (36) moving at a first speed is transported to a cutting station wherein an anvil roller (46) works with a cutting roller (84) to cut discrete elements (32) from the first web of material (36) (Fig. 5). After the discrete element (32) is separated from the web (36), the anvil roller (46) accelerates, transports, and deposits the element onto a second web of material (34) moving at a second speed (Fig. 5; column 12, lines 24-64).

Rajala discloses that the surface of the anvil roller has an arcuate shape, but fails to disclose whether the curvature of the roller may be less than peripheral curvature of the anvil roller itself. Wierzba et al. (Wierzba) discloses a method and apparatus for applying a flat discrete pieces to a web of disposable diaper stock (26) (Abstract; Fig. 4). Wierzba teaches it is desirable to apply uniform pressure along all points of a segment as it is applied to a web of material and accordingly, the surface of the roller applying said segment should be substantially flat (column 5, lines 27-30). It would

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have been obvious for one of ordinary skill in the art to modify the anvil roller of Rajala to include a substantially flat surface because Wierzba teaches that such a surface allows for a more uniform application of pressure when bonding an article to a web of material.

As to claim 29, the method of claim 28 is taught as seen above. The anvil roller with a substantially flat surface in the method of the above references as combined has a radius of curvature larger than the radius of curvature of that of the periphery of the anvil roller (46).

As to claim 30, the method of claim 28 is taught as seen above. Rajala discloses that the discrete elements are applied to the second web of material at substantially the same speed as the second web (column 14, lines 26-67).

As to claim 31, the method of claim 28 is taught as seen above. Rajala discloses that the anvil roller (46) may include vacuum suction (column 15, lines 1-12).

As to claims 32-34, the method of claim 28 is taught as seen above. Rajala discloses that the angular velocity is controlled in a periodically changing manner such that the angular velocity of the anvil roller matches the speeds of the first web of material and second webs of material, respectively, as said roller reaches the taking (42) and transfer (44) zones (Fig. 6 & 7; column 12, lines 40-64; column 14, lines 26-45).

As to claim 35, the method of claim 28 is taught as seen above. Rajala discloses that the anvil roller (46) is coupled with a pressure roller (82) to apply the article (32) to the second web (34) (Fig. 5).

As to claim 39, the apparatus of claim 55 is taught as seen above. The apparatus of the above references as combined would include an anvil (46) with a cylindrically curved surface section.

As to claims 40-41, the apparatus of claim 39 is taught as seen above. Rajala discloses that the length of curvature of the anvil may be 25-305 mm with an arcuate surface spanning from 20 to 340 degrees (column 10, lines 15-20). These ranges result in an anvil that may have a radius of curvature of 4.2 mm up to 873.4 mm. An anvil with a radius of curvature of 42 mm and an arcuate surface spanning 60 degrees would result in a periphery radius of curvature of 42 mm. The radius of curvature of the anvil roller compared to the radius of curvature of the periphery determines the flatness of said anvil roller. As stated in the rejection above, Wierzba teaches that it is advantageous for the roller to be "substantially flat" in order to provide uniform pressure during the lamination of the article onto the second web (column 5, lines 27-35). Wierzba also warns that if said surface is too flat, the surface's leading and trailing edges in the machine direction would be above the periphery curvature of the roller, resulting in possible interference with the web or the cut off knife (66) (Id.). It would have been obvious for one of ordinary skill in the art through routine optimization to determine the amount of curvature on the anvil to maximize the application of uniform pressure on the article during lamination and prevent the edges of said anvil from catching onto the web and cut off knife.

Furthermore, it is the position of the examiner that one of ordinary skill in the art would be able to calculate a radius of curvature for the anvil roller that would be

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"substantially flat" and fall into applicant's claimed range of 50~250 mm, with the anvil radius of curvature being at least two times that of the periphery's radius of curvature, because such a calculation would be well within his technical grasp. "A person of ordinary skill has good reason to pursue the known option within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 82 USPQ2d 1385 (2007).

As to claim 42, the apparatus of claim 55 is taught as seen above. Rajala discloses that the radius of curvature of the anvil may be 25-305 mm with an arcuate surface spanning from 20 to 340 degrees (column 10, lines 15-20). An anvil with a radius of curvature of 42 mm and an arcuate surface spanning 60 degrees would result in a periphery radius of curvature of 42 mm, which falls into Applicant's claimed range of 25-75 mm.

As to claims 43 and 44, it is the position of the Examiner that cutting rollers with at least two knives resiliently held onto said roller is well known in the art and would have been obvious to one of ordinary skill at the time of the invention. The size of the cutting roller relative to the distance at which a web of material needs to be cut, and the number of revolutions the roller will need to make to cut said web will determine the placement and number of cutting knives on the roller, which would be within the technical grasp of one of ordinary skill to ascertain.

As to claim 45, the apparatus of claim 55 is taught as seen above. Rajala discloses that the anvil roller comprises of one single surface section for receiving discrete articles (Fig. 5).

As to claim 46, the apparatus of claim 55 is taught as seen above. Rajala discloses that the angular velocity is controlled by non-circular drive gears (54 and 62 in a periodically changing manner such that the angular velocity of the anvil roller matches the speeds of the first web of material and second webs of material, respectively, as said roller reaches the taking (42) and transfer (44) zones (Fig. 6 & 7; column 12, lines 40-64; column 14, lines 26-45).

As to claims 47 and 48, the apparatus of claim 55 is taught as seen above. Method claims are given patentable weight to the extent that the apparatus is capable of performing the method. Here, the apparatus of the above references as combined would be capable of moving the first web at a first speed of 50~400 m/min, and the second web at a second speed of 5~80 m/min. Furthermore, one of ordinary skill would be capable of designing the apparatus of the above references as combined to handle the claimed feed rates if design incentives (production rates to fill placed orders) dictated.

As to claims 49-50, the apparatus of claim 55 is taught as seen above. Materials worked upon limitations are given patentable weight to the extent that the apparatus is capable of working on said materials. Here, the apparatus of the above references as combined could produce an article with a length of 30-150 cm and discrete articles with a length of 1-10 cm.

As to claim 51, the apparatus of claim 55 is taught as seen above. Materials worked upon limitations in apparatus claims are given patentable weight to the extent that the apparatus is capable of working on said materials. Here the apparatus of the above references as combined would be capable of working upon a folded web of material as claimed.

7. Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wierzba et al. (US 3728191) as applied to claim 28 above, and further in view of Wendelstorf et al. (US 20040194260).

Wierzba fails to disclose a method wherein the first material web consists of a folded web detachably held together through welding, gluing, or perforation points. Wendelstorf et al. (Wendelstorf) discloses a Z-shaped fastening element for diapers with fold lines in the longitudinal direction (Abstract; paragraph 7). Wendelstorf teaches that the element is releasably held in a folded Z-shaped configuration by adhesive (paragraph 15), which is advantageous in keeping said fastening element in an assembled position during processing (paragraph 5). The fasteners may be provided in web form so that individual fasteners may be cut from the web and attached to an absorbent article (Fig. 4 and 7; paragraphs 42 and 44). It would have been obvious to substitute the adhesive strips of Wierzba with the Z-shaped fastening elements of Wendelstorf, because one of ordinary skill would recognize the added benefit of the fastening element remaining in an assembled position during processing of the diaper.

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8. Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rajala et al. (US 6319347) and Wierzba et al. (US 3728191) as applied to claim 28 above, and further in view of Wendelstorf et al. (US 20040194260).

None of the above references as combined disclose a method wherein the first material web consists of a folded web detachably held together through welding, gluing, or perforation points. Wendelstorf et al. (Wendelstorf) discloses a Z-shaped fastening element for diapers with fold lines in the longitudinal direction (Abstract; paragraph 7). Wendelstorf teaches that the element is releasably held in a folded Z-shaped configuration by adhesive (paragraph 15), which is advantageous in keeping said fastening element in an assembled position during processing (paragraph 5). The fasteners may be provided in web form so that individual fasteners may be cut from the web and attached to an absorbent article (Fig. 4 and 7; paragraphs 42 and 44). It would have been obvious to substitute the fasteners of Rajala or the adhesive strips of Wierzba with the Z-shaped fastening elements of Wendelstorf, because one of ordinary skill would recognize the added benefit of the fastening element remaining in an assembled position during processing of the diaper.

9. Claims 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rajala et al. (US 6319347) and Wierzba et al. (US 3728191) as applied to claim 55 above, and further in view of Blumenthal et al. (US 6814217).

As to claims 52-54, the apparatus of claim 55 is taught as seen above. None of the above references as combined disclose that the anvil roller has a moment of inertia

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less than $.0030 \text{ kg m}^2$, and the cutting and pressure rollers have a moment of inertia less than $.0020 \text{ kg m}^2$. It is the position of the examiner that the moment of inertia of the above mentioned rollers is a design parameter that would have been obvious to one of ordinary skill at the time of the invention. Blumenthal et al. (Blumenthal) discloses an apparatus for receiving parts from a first web of material traveling at a first speed and applying discrete articles onto a second web of material traveling at a second speed (Abstract; Fig. 1). Blumenthal discloses that the moment of inertia of the transfer roller (51) is a direct function of mass and radius of gyration squared, thus the moment inertia of the transfer roller is proportional to the torque requirement of the system (column 12, lines 1-20). Since motor capability is a key limiting design factor, an increase in torque can potentially limit the capacity and application of the apparatus (Id.). One of ordinary skill in the art would recognize the design incentives of minimizing the moments of inertia of the anvil, cutting, and pressure rollers to the point that said rollers are still capable of processing and laminating the materials worked upon, because Blumenthal teaches that the moment of inertia of the roller is proportional to the amount of torque required to operate the system.

Furthermore, when there is a design need or market pressure to solve a problem (minimizing torque/power requirements for rotating rollers) and there are a finite number of identified, predictable solutions (minimizing rollers' moment of inertia), a person of ordinary skill has good reason to pursue the known options (rollers with moment of inertia less than $.0030 \text{ kg m}^2$ and $.0020 \text{ kg m}^2$) within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary

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skill and common sense. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art. *KSR v. Teleflex Inc.*, 550 US ____, 82 USPQ2d 1385, 1396 (2007).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Laplanche (US 4237890) discloses Z-shaped diaper fasteners; Clune (US 6827893) discloses folded diaper fasteners.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER C. CAILLOUET whose telephone number is (571)270-3968. The examiner can normally be reached on Monday - Thursday; 9:30am-4:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Phillip Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher C Caillouet/
Examiner, Art Unit 1791

/Mark A Osele/
Primary Examiner, Art Unit 1791
July 31, 2009